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#### IV.—ΣΥΛΛΟΓΙΣΜΟΙ ΕΞ ΥΠΟΘΕΣΕΩΣ IN ARISTOTLE.

Liddell and Scott, s. v. μεταλαμβάνω V, define τὸ μεταλαμβανόμενον as “a proposition changed from a conditional to a categorical form, An. Pr. I, 23, 11; hence συλλογισμοὶ κατὰ μετάληψιν syllogisms constructed by means of such change, ib. 29, 6.” This definition is apparently taken without special verification from the note of Waitz, who renders τὸ μεταλαμβανόμενον “das Verändert angenommene,” and is one out of several illustrations that might be given of the need of a revision of the definitions of philosophical terms in the lexicon. A closer scrutiny of Aristotle’s usage will, I think, show that τὸ μεταλαμβανόμενον does not mean a changed proposition, but a term (or possibly a proposition) taken in place of another in an argument by consent of the disputants—ἐξ ὑποθέσεως. In itself the point is of little moment, but as the entire subject of συλλογισμοὶ ἐξ ὑποθέσεως has been left in a very confused condition by Aristotelian commentators, it may not be amiss to attempt to state briefly just what Aristotle seems to have meant by the expression. The clue to his thought is found by disregarding the post-Aristotelian doctrine of hypothetical syllogisms and recurring to the Platonic usage.

Plato, except in mystical passages, has no absolute ἀρχαί. Logic is for him dialectic, and the ἀρχαί of dialectic are always conventions agreed upon by the disputants. All Platonic arguments are in a sense relative and *ad hominem*. The dialectician differs from the professor of a particular science, not in that he goes back to the absolutely unconditioned (as Mansel renders the ἀνυπόθετον of Rep. 511 B), but in that he is not tied to any particular set of ἀρχαί, the validity of which he refuses to examine. He is willing to push the argument back until some common ground is reached. The proposition thus found acceptable to both disputants, be it a definition, an axiom, or a wide generalization in some special field, becomes an ὑπόθεσις or an ἀρχή which must be allowed unconditioned validity while the consequences that flow from it are being examined; cf. Phaedo 101 D-E, where the ἰκανόν of ἔως ἐπὶ τι ἰκανόν ἔλθεις is the logical equivalent of the μέχρι τοῦ ἀνυποθέτου of the somewhat mythically expressed passage of the Republic.

In the dialogues these ἀρχαί or ὑποθέσεις are frequently fundamental Platonic doctrines (cf. ὑποθέσεως ἀξίας ἀποδέχασθαι, Phaedo 92 D), as the theory of ideas in the Phaedo, or the hypothesis of

the Republic and Timaeus that all human purpose and all the larger purpose that determines the process of the suns is directed towards one definite goal of good. And such passages have obscured the purely relative and logical significance of the method. A good example of the latter is afforded by the argument ἐξ ὑποθέσεως (86 E) in the Meno. Unable to formulate a satisfactory definition of virtue, Socrates and Meno agree that if ἀρετή is ἐπιστήμη it is a διδασκόν. From this point the arguments of Socrates are directed to (πρὸς) the relation of ἐπιστήμη to ἀρετή. A second hypothesis that ἀρετή is an ἀγαθόν is invoked, and the ἀγαθόν is referred through the concept ὠφέλιμον to φρόνησις and ἐπιστήμη. Similarly in the Protagoras, it having been agreed that good and bad are equivalents of pleasurable and painful, Socrates concludes the argument by substituting the one pair of terms for the other. 355 E μεταλλάβωμεν δὴ τὰ ὀνόματα.

We have in these passages the thought and almost the terminology of Aristotle's doctrine. A proof, he says (An. Pr. 40<sup>b25</sup>), may be given δεικτικῶς or ἐξ ὑποθέσεως. The *reductio ad impossibile* is one form of the proof ἐξ ὑποθέσεως, the hypothesis here being the falsity of the ἀντίφασις of one of the premises of the syllogism whose conclusion is to be verified. He then adds (41<sup>a39</sup>) that in all proofs ἐξ ὑποθέσεως—ὁ μὲν συλλογισμὸς γίγνεται πρὸς τὸ μεταλαμβάνομενον, which means, as I said in beginning, not that there is a change to the categorical from the hypothetical form of syllogism (a form not recognized by Aristotle), but that the syllogistic reasoning or the search for middle terms is conducted with reference to the term substituted by agreement. Waitz, it is true, after Alexander, understands τὸ μεταλαμβάνομενον to mean rather a changed proposition than a substituted term. But in the passages he cites (29<sup>a23</sup>, 40<sup>b39</sup>, 41<sup>a6</sup>) Aristotle uses πρὸς of a syllogism applied to a term rather than to a proposition (τοῦδε πρὸς τόδε), and this usage is more consonant with his view of the syllogistic process generally. The index of Bonitz, s. v. συλλογισμὸς, cites with mark of interrogation one example of πρὸς used in this way of a proposition rather than of a term (65<sup>b9</sup>), and it is possible that Aristotle did not discriminate here. The language of 45<sup>b18</sup> ἐν τοῖς μεταλαμβάνομένοις ἔσται ἡ σκέψις (cf. 43<sup>a42</sup>), suggests an examination of terms rather than of propositions. Be this as it may, Greek idiom, Platonic precedent, and Aristotelian usage assign to μεταλαμβάνομενον the meaning "substituted" rather than "changed"; cf. 48<sup>a9</sup> μεταληφθέντων τῶν κατὰ τὰς ἑξέεις explained by οἷον ἀντὶ μὲν τῆς ὑγίαιας εἰ τεθεῖη τὸ ὑγιαίνειν; 49<sup>b3</sup> δεῖ δὲ καὶ μεταλαμβάνειν ἃ τὸ αὐτὸ δύναται

ὀνόματα ἀντ' ὀνομάτων κ. τ. λ. Nor is the μεταλαβεῖν τὰς προτάσεις of 56<sup>b8</sup> opposed to this view.

At 45<sup>b16</sup> two kinds of συλλ. ἐξ ὑποθ. are distinguished, those κατὰ μετάληψιν and those κατὰ ποιότητα, with the further remark : ἐπισκέψασθαι δὲ δεῖ καὶ διελεῖν ποσαχῶς οἱ ἐξ ὑποθέσεως. This design, again referred to at 50<sup>a40</sup>, was never executed, and it is, accordingly, not easy to say just what Aristotle meant by the phrase κατὰ μετάληψιν ἢ καὶ κατὰ ποιότητα. It may reasonably be conjectured, however, that μετάληψις goes back to Protagoras 355 E cited above, while the subdivision κατὰ ποιότητα may well have been suggested by the language of the Meno 87 B, εἰ ποῶν τι ἐστὶ τῶν περὶ τὴν ψυχὴν ὄντων ἀρετὴ κ. τ. λ. Aristotle had the Meno in mind while writing the Analytics, as appears from 69<sup>a25</sup>, where this very argument is employed as an illustration, and from the reference to τὸ ἐν τῷ Μένωνι ἀπόρημα 71<sup>a29</sup>.

The scholiasts, it is true, followed by Prantl, assert that σ. κατὰ ποιότητα constitute a division of the class κατὰ μετάληψιν and mean syllogisms ἀπὸ τοῦ μᾶλλον καὶ ἧττον. This evidence is good to prove that such was the terminology of Theophrastus and the Peripatetics, but proves nothing for Aristotle. It is simply an inference of their own, as the words of Alexander (f. 133<sup>a-b</sup>, Prantl Vol. I, p. 390) show : ἐπεὶ δὲ ταῦτα, τὸ ὅμοιον καὶ τὸ μᾶλλον καὶ τὸ ἧττον τῷ ποιῶ παρακολουθεῖ. It is said in the Categories that ποιὸν admits τὸ μᾶλλον καὶ τὸ ἧττον, and the argument ἀπὸ τοῦ μᾶλλον καὶ ἧττον was familiar to students of the Topics and Rhetoric, where it plays a great part. But it is altogether improbable that Aristotle would have designated the argument in this way in this one place, and altogether probable that his successors should invent this explanation of a tentative expression they did not understand. In short, Aristotle recognized no form of syllogism except the categorical, the direct comparison of three concepts in the relation of parts and wholes ; cf. 49<sup>b37</sup> ὅλως γὰρ ὁ μὴ ἐστὶν ὡς ὅλον πρὸς μέρος καὶ ἄλλο πρὸς τοῦτο ὡς μέρος πρὸς ὅλον ἐξ οὐδενὸς τῶν τοιούτων δέκνυσιν ὁ δεικνύων.

The logical principle of the hypothetical syllogism was clearly stated by him 57<sup>b1-3</sup>, but it was foreign to his purpose to classify syllogisms by this form. His proposal to classify syllogisms ἐξ ὑποθέσεως is merely a design to classify the hypotheses habitually or frequently admitted by Athenian disputants. But he got no further than the tentative proposal of the terms κατὰ μετάληψιν and κατὰ ποιότητα, which were suggested to him by the Platonic loci from which he took the entire conception.

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